

# Mineral Industry Surveys

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## ZINC IN APRIL 2002

Estimated domestic mine production in April, at 70,000 metric tons (t), was about the same as in March and was about 3% higher than in April 2001. Smelter production, at 17,600 t, was more than 4% higher than the previous month's production, but was 45% lower than a year ago. Apparent consumption in April, at 96,600 t, increased by nearly 12% compared with the previous month's consumption, but was about 3% lower compared with consumption in April 2001.

The Platts Metals Week composite price for North American Special High Grade zinc in April declined by about 1% to 39.89 cents per pound of zinc metal. Compared with April 2001, the decline was nearly 18%.

Teck Cominco Ltd.'s Red Dog Mine produced almost 600,000 t of contained zinc, up from 540,000 t in 2001, but less than originally planned. In February 2002, the company announced zinc production cuts in response to a world inventory buildup and depressed zinc prices. The reduction will be accomplished by closing the Trail, British Columbia, zinc smelter during August, removing about 25,000 t of zinc from the world market (Platts Metals Week, 2002a).

Teck Cominco Ltd. reported that low profits from electric power sales, coupled with low metal prices, resulted in net earnings of only \$1.3 million for the first quarter of 2002, an 87% decline compared with the corresponding quarter in 2001. Net earnings during the first quarter of last year were boosted by high power sales from the company's power plant that averaged \$445 per megawatt hour. In the first quarter of 2002, the price averaged \$22 per megawatt hour. Operating profit for the quarter was about \$22 million, from revenue of about \$326 million. Operating profit from the zinc operations was \$5.2 million, down from \$94 million a year ago. Most of the decrease was caused by the Trail smelter in British Columbia, where operating profit, including power sales, dropped from \$77 million in the first quarter of 2001 to \$2.6 million in 2002. A 33% increase in zinc production was offset by a \$22 per metric ton decrease in the average zinc price. In response

to the low zinc price and high world stock levels, Teck Cominco announced that it will not only reduce zinc production during 2002 at its Trail smelter, but also postpone indefinitely plans to proceed with second stage of expansion at Cajamarquilla (Teck Cominco Ltd. 2002).

Despite adequate energy supply and relatively low electric energy prices this year, Teck Cominco is considering building a new power plant, about 240 kilometers northeast of Trail. The company is joining Fording Inc. to study the feasibility of a coal fired powerplant in the Elk Valley, where both have coal mines. A feasibility study should be completed by 2003, and acquiring of all necessary permits is expected to take another 1 to 2 years. Issuance of a building permit for the 150 to 200 megawatt plant will largely depend on the new provincial energy and emission policy, due to be implemented this summer. If the request is submitted and approved, it would take another 1 to 2 years to complete construction (Platts Metals Week, 2002c).

Noranda Inc. of Canada plans to close its Bell Allard underground zinc mine for one month beginning June 29, due to continued low zinc prices and high metal stocks. The Bell Allard Mine, near Matagami, Quebec, began production in January 2000 and employs about 260 people. At the production rate of 2,100 metric tons per day, current proven reserves should support operations for additional 3 years. Because the mine is producing at a rate of 89,000 metric tons per year (t/yr) of zinc in concentrate, a 1-month suspension, which translates to about 7,400 t of contained zinc, will most likely have only a very small effect on the world supply of zinc concentrate. Although impact on the world market will be small, some mining companies hope that Noranda's example will be followed by other producers (Metal Bulletin, 2002b). Kagara Zinc Ltd. plans to begin construction of the Mount Garnet zinc project in Queensland, Australia, at the end of May and first concentrate should be produced by February 2003. The announcement came after the company secured the

required financing of \$31 million in February of this year. The initial rate of production is to be 80,000 t/yr of zinc concentrate, which is to increase gradually to 150,000 t/yr. According to a long-term agreement, all concentrate will be sent for processing to Sun Metals Ltd.'s smelter in Townsville. In addition to zinc, Kagara Zinc will also produce 15,000 t/yr of lead-silver concentrate and 5,000 to 8,000 t/yr of copper-gold concentrate (Metal Bulletin, 2002a).

According to China's National Bureau of Statistics (NBS), Chinese zinc output in April declined to 165,800 t, and output for the first 4 months totaled 618,000 t, 9.8% lower than during the first 4 months in 2001. The decreasing price of zinc metal and increasing price of imported zinc concentrate forced many smelters to curtail production. For example, the 130,000-t/yr line at the Huludao Zinc Plant remained closed since July of 2001. It was supposed to reopen in June, 2002, but because of insufficient water supply during the dry summer months, in addition to low zinc and high concentrate prices, it is doubtful that it will reopen before September of this year. In addition to reduced production at operating facilities, many new plants that were built last year postponed the start of operation until more favorable market conditions existed. Declining Chinese production and consequent lower exports to major consuming countries may help to balance supply and demand of the world zinc market (Antaike, 2002).

## Update

It appears that Pasminco Mining Ltd. of Australia will emerge from administration (similar to U.S. Chapter 11 bankruptcy law) as a streamlined mining company after a committee representing the company's creditors endorsed a proposal to restructure Pasminco's debt burden. Since September 2001, Pasminco has been operating by administrators appointed when the company's debt reached \$1.6 billion. Under the proposal, Pasminco will exchange its debt for shares in the restructured company while keeping its flagship Century zinc mine in Queensland. This would result in the creditors owning about 95% of the company, which would subsequently be reduced by about one-half through a public offering of some of the shares held by the creditors. A significant amount of restructuring has already taken place in terms of cost reduction, staffing, and efficiency. The sale of Pasminco's Broken Hill lead-zinc-silver mine in New South Wales was completed in June. Offers are also being considered for the Clarksville zinc smelter and zinc mines in Tennessee. The company's Elura Mine, also in New South

Wales, is likewise on the market. After restructuring, Pasminco would be left with four smelters (three in Australia and one in the Netherlands) and the Century Mine (Platts Metals Week, 2002b).

Australian mining companies Perilya Ltd. and Ranger Minerals Ltd. have agreed to merge, creating a diversified resource company with assets in minerals, oil, and gas. The main motivation behind the merger, completed at the end of May, was Perilya's acquisition of Pasminco's Broken Hill Mine. A \$20 million portion of the of the \$51 million sale price has already been paid, and the remaining \$31 million will be paid in the form of deferred volume and price-linked payments. The merger with Ranger will allow Perilya to adequately fund operations at Broken Hill, which is expected to have annual production of 330,000 t of zinc concentrate and 115,000 t of lead-silver concentrate. Perilya's intention is to lower the cost of operation and increase productivity, and to extend the mine life to at least 2011. An audit, completed prior to the purchase, identified resources of 23.4 million tons grading 9.8% zinc, 5.6% lead, and 56 grams per ton silver (Mining Journal, 2002a). Under the terms of the merger agreement, the transaction will result in Ranger shareholders holding a 32% interest in the new company—to be called Perilya Ltd.—and existing Perilya shareholders will hold the remaining 68% (Mining Journal, 2002b).

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TABLE 1  
SALIENT ZINC STATISTICS 1/

(Metric tons, unless otherwise specified)

	2001	2002			
	January- December p/	February	March	April	January- April
Production:					
Mine, zinc content of concentrate	798,000	62,700	69,900 r/	70,000 e/	266,000
Mine, recoverable zinc	761,000	60,400	67,300 r/	67,000 e/	256,000
Smelter, refined zinc	299,000	19,800	16,900	17,600	73,200
Oxide (gross weight)	57,800	NA	NA	NA	NA
Consumption:					
Refined zinc, reported	453,000	31,300	30,800 r/	32,800	126,000
Ores e/ (zinc content)	228	19	19	19	76
Zinc-base scrap e/ (zinc content)	223,000	18,600	18,600	18,600	74,400
Copper-base scrap e/ (zinc content)	211,000	17,600	17,600	17,600	70,400
Aluminum- and magnesium-base scrap e/ (zinc content)	1,360	113	113	113	452
Total e/	889,000	67,600	67,100	69,100	271,000
Apparent consumption, metal 2/	1,040,000	87,100	86,500 r/	96,600 3/	360,000
Stocks of refined (slab) zinc, end of period:					
Producer 4/	XX	11,000	9,760 r/	9,420	XX
Consumer 5/	XX	61,600	61,900 r/	62,300	XX
Merchant	XX	11,400	10,400	10,600	XX
Total	XX	84,100 r/	82,000 r/	82,300	XX
Shipments of zinc metal from Government stockpile	17,900	--	223 r/	1,200 e/	1,670
Imports for consumption:					
Refined (slab) zinc	813,000	67,500	78,200	NA	213,000 6/
Oxide (gross weight)	72,000	5,010	5,590	NA	16,300 6/
Ore and concentrate (zinc content)	84,000	9,000	10,000	NA	29,300 6/
Exports:					
Refined (slab) zinc	1,180	98	102	NA	285 6/
Oxide (gross weight)	11,300	786	913	NA	2,570 6/
Ore and concentrate (zinc content)	696,000	19,900	7,540	NA	34,300 6/
Waste and scrap (gross weight)	44,000	4,580	4,530	NA	11,600 6/
Price:					
London Metal Exchange, average, dollars per metric ton	\$885.43	\$770.86	\$818.96	\$807.80	\$797.62
Platts Metals Week North American Special High Grade, average, cents per pound	43.96	38.23	40.30	39.89	39.41

e/ Estimated. p/ Preliminary. r/ Revised. NA Not available. XX Not applicable. -- Zero.

1/ Data are rounded to no more than three significant digits; except prices; may not add to totals shown.

2/ Smelter production plus imports minus exports plus shipments from Government stockpile plus stock change.

3/ Data based on reported consumption, stocks, and estimated trade data.

4/ Data from U.S. Geological Survey and American Bureau of Metal Statistics.

5/ Includes an estimate for companies that report annually.

6/ Includes data through March only.

TABLE 2  
REFINED ZINC PRODUCED IN THE UNITED STATES 1/

(Metric tons)

Month	Beginning stocks 2/	Production	Shipments	Ending stocks 2/
2001:				
April	11,500	32,000	32,800	10,700
May	10,700	28,800	30,500	9,000
June	9,000	22,600	23,000	8,580
July	8,580	18,900	20,100	7,340
August	7,340	19,800	20,600	6,540
September	6,540	24,800	24,500	6,760
October	6,760	19,900	19,900	6,750
November	6,750	20,000	19,500	7,210
December	7,210	18,400	18,200	7,380
Year	XX	299,000	299,000	XX
2002:				
January	7,380	18,800	15,400	10,800
February	10,800	19,800	19,600	11,000
March	11,000	16,900	18,200 r/	9,760 r/
April	9,760	17,600	18,000	9,420
January-April	XX	73,200	71,200	XX

r/ Revised. XX Not applicable.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Includes stocks held at locations other than smelters.

Sources: U.S. Geological Survey and American Bureau of Metal Statistics.

TABLE 3  
ZINC OXIDE PRODUCED IN THE UNITED STATES 1/ 2/

(Metric tons, gross weight)

Period	Beginning stocks	Production	Shipments	Ending stocks
2001:				
April	4,340	10,200	10,100	4,410
May	4,410	8,870	10,200	3,090
June	3,090	2,440	4,100	1,430
July	1,430	605	1,190	844
August	844	1,360	70	2,140
September	2,140	3,450	174	5,410
October	5,410	1,430	4,600	2,240
November	2,240	--	2,240	--
December	--	--	--	--
Year	XX	57,800	61,200	XX
2002:				
January-April	XX	NA	NA	XX

XX Not applicable. NA Not available. -- Zero.

1/ Excludes impure zinc oxide produced from other processes.

2/ Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 4  
APPARENT CONSUMPTION OF REFINED ZINC ACCORDING TO INDUSTRY USE AND PRODUCT 1/

(Metric tons)

Industry and product	2001	2002			
	January-December p/	February	March	April 2/	January-April
Galvanizing:					
Sheet and strip	432,000	37,400	37,300 t/	40,500	153,000
Other	146,000	13,300 t/	13,500 t/	15,200	56,000
Total	578,000	50,700	50,800 t/	55,700	209,000
Brass and bronze	148,000	14,800	14,700 t/	15,900	60,000
Zinc-base alloy	190,000	16,100	15,600	19,100	68,800
Other uses 3/	123,000	5,600	5,500	5,900	22,600
Grand total	1,040,000	87,100	86,500 t/	96,600	360,000

p/ Preliminary. t/ Revised.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Data based on reported consumption, stocks and estimated trade data.

3/ Includes zinc used in making zinc dust, desilvering lead, powder, alloys, anodes, chemicals, castings, light metal alloys, rolled zinc, and miscellaneous uses not elsewhere specified.

TABLE 5  
AVERAGE MONTHLY ZINC PRICES 1/

Period	North American	LME cash	
	¢/lb.	¢/lb.	\$/t
2001:			
April	48.01	43.96	969.08
May	46.34	42.53	937.62
June	44.34	40.58	894.57
July	42.42	38.65	852.06
August	41.31	37.54	827.68
September	39.97	36.21	798.21
October	38.04	34.52	761.14
November	38.39	35.04	772.49
December	37.48	34.21	754.28
Year	43.96	40.16	885.43
2002:			
January	39.23	35.96	792.86
February	38.23	34.97	770.86
March	40.30	37.15	818.96
April	39.89	36.64	807.80
January-April	39.41	36.18	797.62

1/ Special High Grade.

Source: Platts Metals Week.

TABLE 6  
U.S. EXPORTS OF ZINC 1/

Material	2002 2/					
	2001		March		Year to date	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Refined (slab) zinc	1,180	\$1,290	102	\$96	285	\$264
Ore and concentrate (zinc content)	696,000	285,000	7,540	2,360	34,300	11,400
Waste and scrap (gross weight)	44,000	22,800	4,530	1,960	11,600	6,020
Powders, flakes, dust (zinc content)	4,690	7,230	496	720	1,130	1,750
Oxide (gross weight)	11,300	17,600	913	1,400	2,570	3,890
Chloride (gross weight)	1,730	1,630	128	144	505	566
Sulfate (gross weight)	4,780	2,900	265	156	667	401
Compounds, other (gross weight)	227	499	1	4	19	48

1/ Data are rounded to no more than three significant digits.

2/ Data for April 2002 were not available at time of publication.

Source: U.S. Census Bureau.

TABLE 7  
U.S. IMPORTS FOR CONSUMPTION OF ZINC 1/

Material	2002 2/					
	2001		March		Year to date	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Refined (slab) zinc	813,000	\$773,000	78,200	\$63,300	213,000	\$174,000
Ore and concentrate (zinc content)	84,000	31,600	10,000	3,520	29,300	10,300
Waste and scrap (gross weight)	39,300	11,600	1,970	888	6,870	2,250
Powders, flakes, dust (zinc content)	26,700	45,000	2,560	3,990	7,920	12,200
Oxide (gross weight)	72,000	66,200	5,590	4,730	16,300	13,400
Chloride (gross weight)	946	1,020	62	53	164	154
Sulfate (gross weight)	16,200	7,330	3,170	1,610	5,950	3,140
Compounds, other (gross weight)	1,400	1,360	115	105	311	328

1/ Data are rounded to no more than three significant digits.

2/ Data for April 2002 were not available at time of publication.

Source: U.S. Census Bureau.

TABLE 8  
SHIPMENTS OF ZINC METAL FROM THE NATIONAL  
DEFENSE STOCKPILE 1/

(Metric tons)

Period	Beginning inventory	Shipments	Ending inventory
2001:			
April	132,000	2,020	130,000
May	130,000	1,710	129,000
June	129,000	771	128,000
July	128,000	2,570	125,000
August	125,000	3,340	122,000
September	122,000	1,680	120,000
October	120,000	--	120,000
November	120,000	--	120,000
December	120,000	110 r/	120,000
Year	XX	17,900	XX
2002:			
January	120,000	243 r/	120,000
February	120,000	--	120,000
March	120,000	223 r/	120,000
April	120,000	1,200 e/	118,000
January-April	XX	1,670	XX

e/ Estimated. r/ Revised. XX Not applicable. -- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

Source: Defense Logistics Agency.

TABLE 9  
U.S. IMPORTS OF ZINC, BY TYPE OF MATERIAL AND COUNTRY 1/ 2/

(Metric tons)

Material and country	General imports			Imports for consumption		
	2001	2002 2/		2001	2002 2/	
		March	Year to date		March	Year to date
Ore and concentrate (zinc content):						
Australia	17,200	--	16,000	17,200	--	16,000
Mexico	10,700	--	3,250	10,700	--	3,250
Peru	54,900	10,000	10,000	54,900	10,000	10,000
Other	1,150	--	88	1,150	--	88
Total	84,000	10,000	29,300	84,000	10,000	29,300
Blocks, pigs, or slab:						
Argentina	1,270	1,270	2,540	1,270	1,270	2,540
Australia	55,700	--	2,980	29,700	--	2,980
Brazil	17,900	1,330	7,280	17,900	1,330	7,280
Canada	442,000	48,900	126,000	438,000	48,900	126,000
China	31,800	12,000	14,900	7,260	5	11
Kazakhstan	88,900	6,170	21,100	88,900	6,170	21,100
Korea, Republic of	30,600	8,010	8,010	10,800	13	13
Mexico	141,000	13,300	38,300	140,000	13,300	38,300
Peru	48,800	2,940	9,690	47,600	2,940	9,690
Poland	8,530	3,490	3,490	8,530	3,490	3,490
Russia	14,400	505	757	14,400	505	757
Other	22,100 r/	250	817	9,030 r/	251	817
Total	903,000	98,100	236,000	813,000	78,200	213,000
Dross, ashes, fume (zinc content)	12,000	875	3,110	12,000	875	3,110
Grand total	999,000	109,000	268,000	909,000	89,100	245,000
Oxide (gross weight):						
Canada	47,500	3,420	10,300	47,500	3,420	10,300
Japan	1,110	94	163	1,110	94	163
Mexico	18,900	1,550	5,090	18,900	1,550	5,090
Netherlands	2,820	321	485	2,820	321	485
Other	1,620	197	342	1,620	197	342
Total	72,000	5,590	16,300	72,000	5,590	16,300
Other (gross weight):						
Waste and scrap	39,300	1,970	6,870	39,300	1,970	6,870
Sheets	7,240	62	166	7,240	62	166
Powders, flakes, dust (zinc content)	26,700	2,560	7,920	26,700	2,560	7,920

r/ Revised. -- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Data for April 2002 were not available at time of publication.

Source: U.S. Census Bureau.